



Somali Civil Aviation Authority

AAO SG 6

SCAA PRESENTATION

Class A Post-Implementation Report

AAO SG 6 Meeting

Dakar, Senegal

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1 INTRODUCTION

In this working paper, the activities accomplished by Somalia in order to achieve the Class A airspace service standard are discussed. In the document, topics relevant to the development toward Class A airspace, such as ATCO training and validation, Annex 1 requirements, CNS/ATM systems that are currently in use, expected system installations, and publications and notifications made regarding the airspace upgrade.

2 AIR TRAFFIC CONTROLLER – TRAINING AND ANNEX 1 REQUIREMENTS

1.1 The information below presents the completed tasks in the ATM during the implementation of the airspace upgrade in collaboration with IATA, ESAF and other stakeholders for the purpose of training Somalia Air Traffic Controllers, preparing the operating procedures, and licensing towards attainment of an Area Control Rating and Validation in line with capacity building in preparation for the post-implementation of **class 'A'** ATCS in the upper airspace of Mogadishu FIR.

1.1.1 A total of 27 ATCOs completed their training, validation, and Rating between May 2022 to February 2023 in different patches each patch followed a period of one month consolidation period.

1.1.2 All the controllers went through the licensing requirements of medical class 3 assessment as well as English language proficiency tests as per SOMCARs Part II and Annex 1.

1.2 The following ATM procedures has been documented as part of the Airspace upgrade and approved by the CAA.

- a. ATM Contingency Plan
- b. Mogadishu ACC Procedures
- c. Coordination procedure for Mogadishu Approach
- d. Coordination Procedures for Bosaso AFIS
- e. Coordination Procedures for Hargeisa AFIS
- f. Coordination procedures for Garowe AFIS
- g. Coordination Procedures for Mogadishu Tower
- h. Draft ATM Manual
- i. Draft ATM emergency plan

1.3 Letter of Agreement with Neighboring FIRs

- The status of the LOAs with the neighboring FIRs are summarized in the table below.

Table 2-1 LOA status

FIR A	FIR B	Status
Mogadishu	Djibouti	Signed
Mogadishu	Addis Ababa	Signed
Mogadishu	Seychelles	Signed
Mogadishu	Nairobi	Signed
Mogadishu	Mumbai	Signed
Mogadishu	Sana'a	Signed

1.4 The number flights that passed through Mogadishu FIR safely for the last 7 months was over **84,000** which includes enroute and terminal flights.

1.5 The number of incidents reported were three.

1.6 LHDs reported for the last 6 months less than 7.

CNS/ATM SYSTEMS

2.1 The Mogadishu ACC has an operational state-of-the-art CNS/ATM system. Some of the key functions within the automated ATM system which are in use are as following:

Table 2-2 Some of the Installed and currently serviceable CNS/ATM Systems

	System	Description
1	FDPS-MONA-MTCD	<ul style="list-style-type: none"> The Flight Data Processing System (FDPS) is a dual server system based on an open architecture which provides the processing of flight plan data and other related information to support air traffic controllers during the planning and progress phases of flights, according to ICAO PANS/ATM Document 4444 rules. The FDPS mainly provides Air Traffic Controllers accurate and update flight information during all phases of flight (planning, coordination between sectors and with adjacent ATS units, transfer of control between sectors). The FDPS also supports the ATC Tools “Medium Term Conflict Detection” (MTCD), “Monitoring Aids” (MONA), Arrival Manager (AMAN) and Departure Manager (DMAN) providing them with updated SFPL data and trajectories.
2	AGDL	<ul style="list-style-type: none"> The implementation of the air/ground data link is one of the key operational improvements that will alleviate voice channel congestion. Data link implementation will provide benefits to ATM

		<p>efficiency, capacity, and communications to accommodate the expected growth in air traffic demand.</p> <ul style="list-style-type: none"> • FANS1/A - Automatic Dependent Surveillance – Contract (ADS-C). • FANS1/A – Controller Pilot Data Link Communications (CPDLC).
3	SNET	<ul style="list-style-type: none"> • Safety Nets are ground based system functions designed to alert controllers (with visual and aural warnings) about potentially hazardous situations between controlled flights in a timely manner and with sufficient time in advance for the situation to be resolved. • A numerous SNET functions are available in the ATM system. Namely, the Short-Term Conflict Alert (STCA), Minimum Safe Altitude Warning (MSAW), Area Proximity Warning (APW).
4	RPB	<ul style="list-style-type: none"> ▪ The Recording and Playback provides a continuous data recording of the information regarding the operation of the surveillance and Air Traffic Control (ATC) system. ▪ It records the data passing throughout the Local Area Network (LAN). Captures and records the Controller Working Position (CWP) data to be retrieved and replayed at a later stage for investigations, if need be.
5	SDPS	<ul style="list-style-type: none"> ▪ The Surveillance Data Processing System interface with multiple sensors and surveillance data sources. SDP processes the local tracks of such sources through merging and correlation function to produce meaningful system tracks presented on the Controller Working Position (CWP).

2.2 Ground to Air Communications:

2.2.1 VHF Coverage

2.2.1.1 There is an existing enroute extended **VHF** coverage over the **Mogadishu, Bosaso** and **Garowe** stations within a coverage of more than **240nm** each, which provides over 90% of VHF coverage of the continental airspace.

2.2.1.2 VSAT communication system was installed as a backbone network interconnecting VHF/ATM system in Mogadishu, Bosaso and Garowe. Ready to be expanded to accommodate new sites, namely, Baidoa and Kismayo.

2.2.1.3 The VHF radios were setup in redundance mode to avoid single point of failure. (Operational, Hot standby, Cold standby and Emergency).

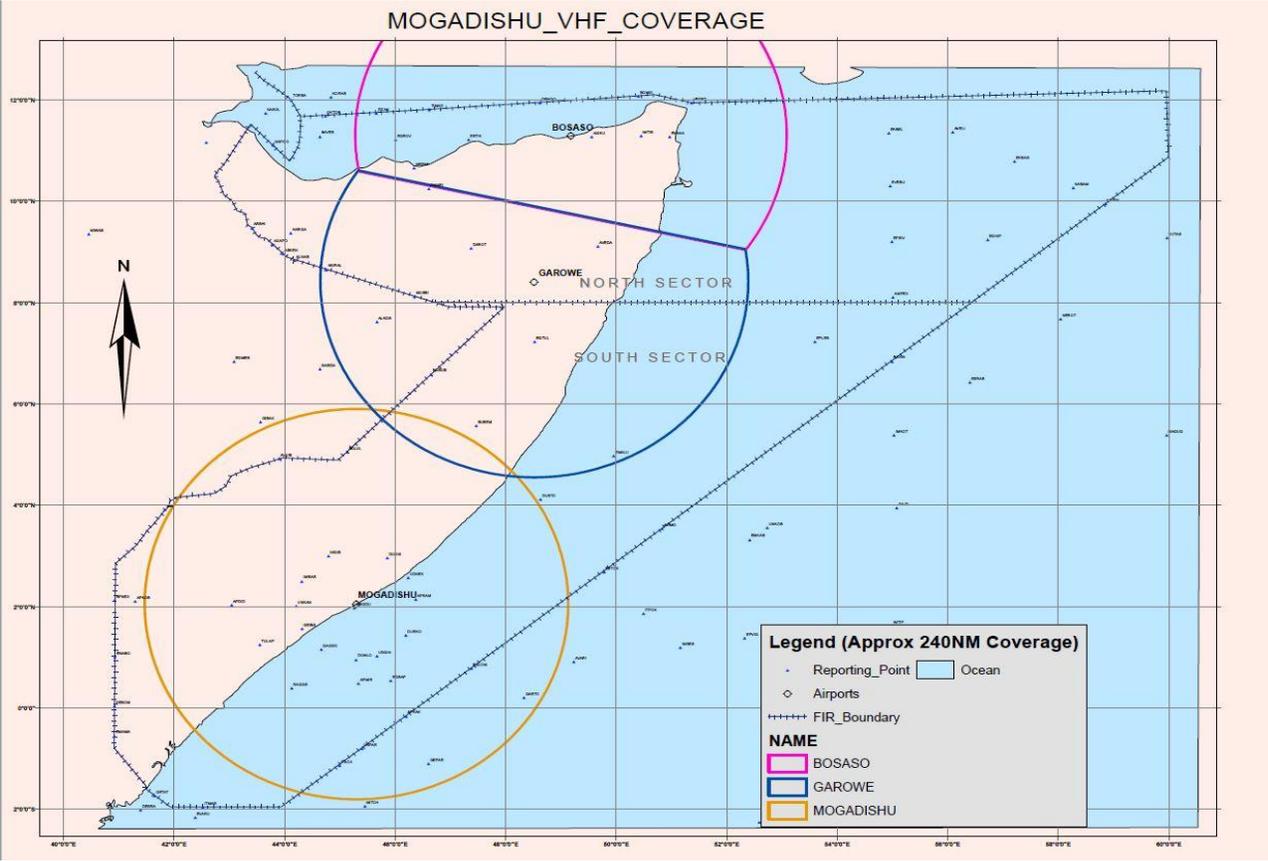


Figure 2-1 The Existing VHF Coverage (June 2023)

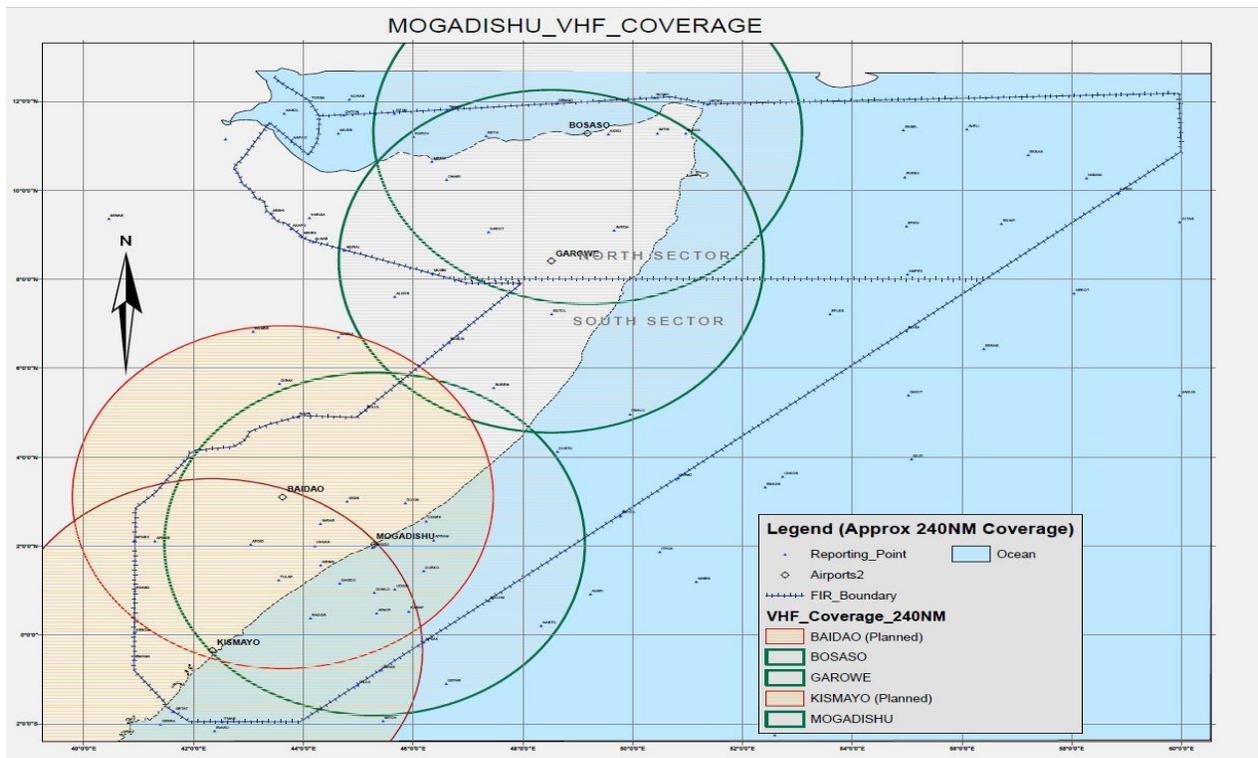


Figure 2-2 Expected VHF Coverage by (Nov 2023)

2.2.2 HF radios were installed and are now serviceable. Intended to be as a fallback to VHF and also to be used as a communication means covering the oceanic parts of Mogadishu airspace alongside the CPDLC.

2.2.3 SATCOM lines are operational and are intended for the flights equipped with the SATCOM. There are six SATCOM numbers published in the AIP.

2.2.4 FANS A/1 – CPDLC/ADS-C: The system is operational in Mogadishu FIR with an availability of 99%. Most of overflights equipped with FANS 1/A logon to the CPDLC/ADS-C to initiate and maintain communication with Mogadishu ACC via the datalink.

2.3 Ground- Ground Communications

2.3.1 AMHS System: Installed and operational; and its connected and integrated via a separate LAN with the FDPS subsystem of the ATM system. ATS/AIS messages such as FPLs, NOTAMs, Departure/Arrival Messages etc., are all sent and received via this system. Also, the meteorological OPMET messages are equally sent/received via the system, such as METAR, SPECI, TAFs etc.

2.3.2 NAFISAT ATS-DS Lines: The system provides dedicated and direct hotlines used specifically to communicate with the neighboring FIRs via the VSAT terminal in Mogadishu with a regional main hub in Johannesburg, South Africa.

2.3.3 AIDC: Mogadishu is currently establishing an interfacility communication with the Neighboring countries in order to automate and improve the coordination and reduce the Large-Height-Deviation (LHD).

2.4 Surveillance System

2.4.1 SCAA intends to increase both efficiency and safety by implementing an ADS-B system along with the current ADS-C system. Introducing the ADS-B system will enable SCAA to achieve comprehensive and modern surveillance capabilities, ensuring maximum operational safety and effectiveness.

3 AERONAUTICAL NOTIFICATIONS IN PLACE FOR CLASS A AIRSPACE LAUNCH

Regarding the final stage of launching the full implementation of class A airspace within the Mogadishu FIR on 26th January 2023, the following aeronautical publications were promulgated to act as a notifications and guidance through the official Aeronautical channels:

- 3.1** After the successful launch of Class, A airspace, AIRAC AIP AMDT 01/23 IS issued to incorporate all long-lasting changes brought about by the upgrade into the AIP of Somalia affecting the facilities, services, and procedures.
- 3.2** Contingency plan update
- 3.3** ALL ATS routes will be PBN/RNAV IN collaboration with adjacent FIRs.

4 CONCLUSIONS

Finally, the Somalia Air Navigation Services Provider (ANSP), on behalf of the Director General of the Somali Civil Aviation Authority (SCAA), extends its gratitude to the ICAO (ESAF and MID), IATA, airlines, neighboring FIRs (Nairobi, Addis Ababa, Djibouti, Sana'a, Mumbai, and Victoria), and other stakeholders for their active engagement in the accomplishment of Class A standards and for the Somali ANSP to be part of the Class A service providers in the region.

This will serve as the foundation for Somalia's efforts to deliver a world-class air service that is both safe and secure.